which a stock of isolated elements plays a part; is from 'pure experience' or undifferentiated feelings to discrimination, on the one hand, to generalizations, abstractions, on the other. If, as seems probable, the Primates display a vast increase of associations, and a stock of free-swimming ideas, our view gives to the line of descent a meaning which it never could have so long as the question was the vague one of more or less 'intelligence.' It will, I hope, when supported by an investigation of the mental life of the Primates and of the period in child life when these directly practical associations become overgrown by a rapid luxuriance of free ideas, show us the real history of the origin of human faculty.

Edward Thorndike.

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THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.

The American Society of Mechanical Engineers held their spring meeting at Niagara Falls, May 31st to June 3d, inclusive. The reception was initiated by Mayor Hastings in an interesting and cordial address, and by Mr. Coleman Sellers, and Mr. W. A. Brackenridge, who described with lantern-illustrations the work of the Cataract Construction Company. In addition to Society business, the time was given to visits to points of professional interest, at Niagara and at Buffalo and adjacent towns, and, later, at Dunkirk and at Toronto.

Some very important papers were read, Mr. Barrus made a 'Plea for a Standard Method of Conducting Engine Tests'; intending particularly tests of mill-engines; the Society having already, through special committees, established precise methods of engine trial for steam pumping engines and locomotives, and of steam-boilers, which have been accepted as models, almost universally. A standard is now proposed that shall be general and cover the whole field. Mr. Bryan Donkin, an English member of the association, proposes an extension of these systems into other countries. The American Society having led the way in instituting such formal programs, steps should be now taken to secure general adoption throughout the world.

Mr. James See presented a very concise discussion of the principal points to be considered in patenting new devices. Mr. W. H. Bryan discussed 'Relations Between the Purchaser, the Engineer and the Manufacturer,' a phase of economics which is attracting much attention among members of the engineering profession. Mr. G. A. Lowry gave an interesting outline of the development of the industry of ginning and baling cotton, and of the inventions which have brought about its remarkable progress. Messrs. Woolson, Baker, Norton, Cole, Johnson and others discussed the construction, setting and details of steam-boiler practice. Mr. Benjamin detailed results of investigation of the strength of cast-iron cylinders, and Professor Carpenter reported the outcome of the extensive Sibley College researches on the properties of the aluminum alloys, with the various other useful metals and experiments upon the value of a remarkable new seamless tube. Dr. Thurston illustrated a variety of novel 'Graphic Diagrams and Glyptic Models,' employed for representation of the laws of variation of strength of materials of engineering and the economics of the steam engine, mainly of his own devising for use in his researches in these departments.

R. H. Thurston.

BOTANICAL NOTES.

BOTANY AND AGRICULTURE.

In the Proceedings of the Eighteenth Annual Meeting of the Society for the Pro-